

MANAGING LIPIDS IN PEOPLE WITH DIABETES AND KIDNEY DISEASE

The Association of British Clinical Diabetologists and the Renal Association have recently produced guidelines on lipid management in diabetes and kidney disease. **Dr Ana Pokrajac**, Clinical Lead for Diabetes and Chronic Kidney Disease in West Hertfordshire and Diabetes UK Clinical Champion, presents these recommendations, which are intended as a useful guide to your clinical practice



Cardiovascular disease (CVD) is a key contributor to excess morbidity and premature mortality in diabetes and chronic kidney disease (CKD) is an independent and major risk factor for CVD. Lipids are a modifiable risk factor and good lipid management offers improved outcomes for patients with diabetes and concomitant renal disease. Our numbered guidelines on lipid management in diabetes and kidney disease are presented here with the

level of evidence* supporting them. We have differentiated the two kinds of kidney disease in diabetes as follows: nephropathy (DN) is damage to the glomerular capillaries, resulting in albuminuria, while diabetes mellitus chronic kidney disease (DM-CKD) is the presence of structural or functional renal abnormalities.

Lipid-lowering: Guidelines 1-7

1 We recommend evaluation of a full lipid profile (total cholesterol,

LDL cholesterol, HDL cholesterol, triglycerides) in people with DN-DM CKD, as is current practice (1A).

2 Lipid profile should be assessed at least annually in people with DN-DM CKD (1C).

3 The major goal of commencing lipid-lowering therapy in patients with DN-DM CKD is to reduce risk of cardiovascular events (2A). We suggest that in people with stage 1-2 DN-DM CKD, lipid-lowering therapy with statins is commenced in the following categories:

* This grading system classifies expert recommendations as 'strong' (Grade 1) or 'weak' (Grade 2) and the quality or level of evidence is designated as high (Grade A) to very low (Grade D).

SUPPLEMENT

KIDNEY DISEASE

- Type 1 diabetes and persistent microalbuminuria
 - Type 1 diabetes with rapidly progressing early CKD (loss of GFR >5ml/min/year) irrespective of albuminuria status
 - Type 2 diabetes aged >40 irrespective of cholesterol
 - Type 2 diabetes and persistent micro- or macroalbuminuria.
- 4 Lipid-lowering therapy with statins should be considered for all patients with stage 3-5 DN-DM CKD (1B).
 - 5 The lipid profile should be reviewed on commencement or change of modality of renal replacement therapy (dialysis or kidney transplantation) (1D).
 - 6 In patients with end stage renal disease, follow-up measurement of lipid profile should be performed annually to assess compliance and need for continuing therapy (2D).
 - 7 We recommend caution with lipid-lowering therapy in women of childbearing potential and that these agents should be discontinued if pregnancy is contemplated (1B).

Type 1 diabetes with CKD: Guideline 8

- 8 In patients with Type 1 diabetes with CKD stage 1-2, lipid-lowering therapy with statins is routinely commenced in people with persistent albuminuria over the age of 30, unless there are additional CVD risk factors evident amongst those aged 18-30 (1B).

Specific groups: Guidelines 9-13

- 9 We suggest that atorvastatin 20mg or simvastatin 20-40mg is appropriate for statin initiation in DN-DM CKD patients not requiring renal replacement therapy (1D).
- 10 The management of dyslipidaemia in cases with reduced GFR +/- persistent albuminuria should be similar irrespective of whether the individual has Type 1 or Type 2 diabetes (1B).
- 11 Statin use in Type 1 diabetes with persistent albuminuria and/or reduced eGFR (60-90) should aim to reduce total cholesterol to 4.0mmol/l, LDL cholesterol to 2.0mmol/l and non-HDL cholesterol to 2.5mmol/l (1D).
- 12 Higher intensity statin use (atorvastatin 40-80mg) can be considered for those with persistent

albuminuria and or reduced eGFR (30-60) at highest CVD risk, eg, aged >40, poor glycaemic control (HbA1c >75 mmol/mol), additional CVD risk factors (smoking, hypertension, dyslipidaemia, proliferative retinopathy) who do not attain these lipid targets on lower statin doses (1D).

- 13 All Type 2 diabetes patients with stage 1-2 CKD with albuminuria have the highest risk of CVD and should be considered for high intensity statins such as atorvastatin 80mg (1A).

People on dialysis: Guidelines 14-21

- 14 We recommend that in patients with DN-DM CKD already treated with lipid-lowering therapy, who commence dialysis, this therapy should be continued (2C).
- 15 The decision to commence lipid-lowering therapy de novo in DN-DM CKD patients requiring dialysis (either haemodialysis or peritoneal) dialysis should take into account risk of future atherosclerotic vascular events, expected life expectancy on dialysis and other co-morbid disease. In the absence of compelling evidence, it seems likely that any benefit of statins in dialysis patients are likely to be greatest in younger patients with a longer projected treatment period with renal replacement therapy (2C).
- 16 All those with DN-DM CKD who have undergone renal transplantation should have lipid status assessed once the immediate post-operative period has passed (typically at three months post transplantation) (2C).
- 17 Lipid status should be assessed annually in renal transplant recipients with DN-DM CKD (2C).
- 18 Lipid-lowering therapy should be commenced in patients with DN-DM CKD who have undergone renal transplantation (1B).
- 19 Choice and dose of lipid-lowering therapy in patients with DN-DM CKD who have undergone either kidney transplantation or kidney pancreas transplantation should take into account concurrent immunosuppressive therapy (2D).
- 20 Patients with DN-DM CKD who have undergone kidney pancreas transplantation should be treated with statins (2D).
- 21 People who develop post-transplant diabetes should be

treated with statins (2D).

Statin safety: Guidelines 22-24

- 22 We do not recommend simvastatin in DN-DM CKD in a dosage greater than 40mg, given increased risk of muscular side effects (1A).
- 23 Sub-maximal statin (in those who are unable to tolerate higher statin doses) and ezetimibe combination therapy should be considered as an alternative to high intensity atorvastatin in DN-DM CKD at all stages (1B).
- 24 We recommend routine measurement of liver enzymes before, and three months after, statin commencement in DN-DM CKD and annually thereafter. There is no need to routinely measure serum creatinine kinase in the absence of muscle pains (in keeping with NICE guideline CG181) (1A).

Combination therapies: Guidelines 25-28

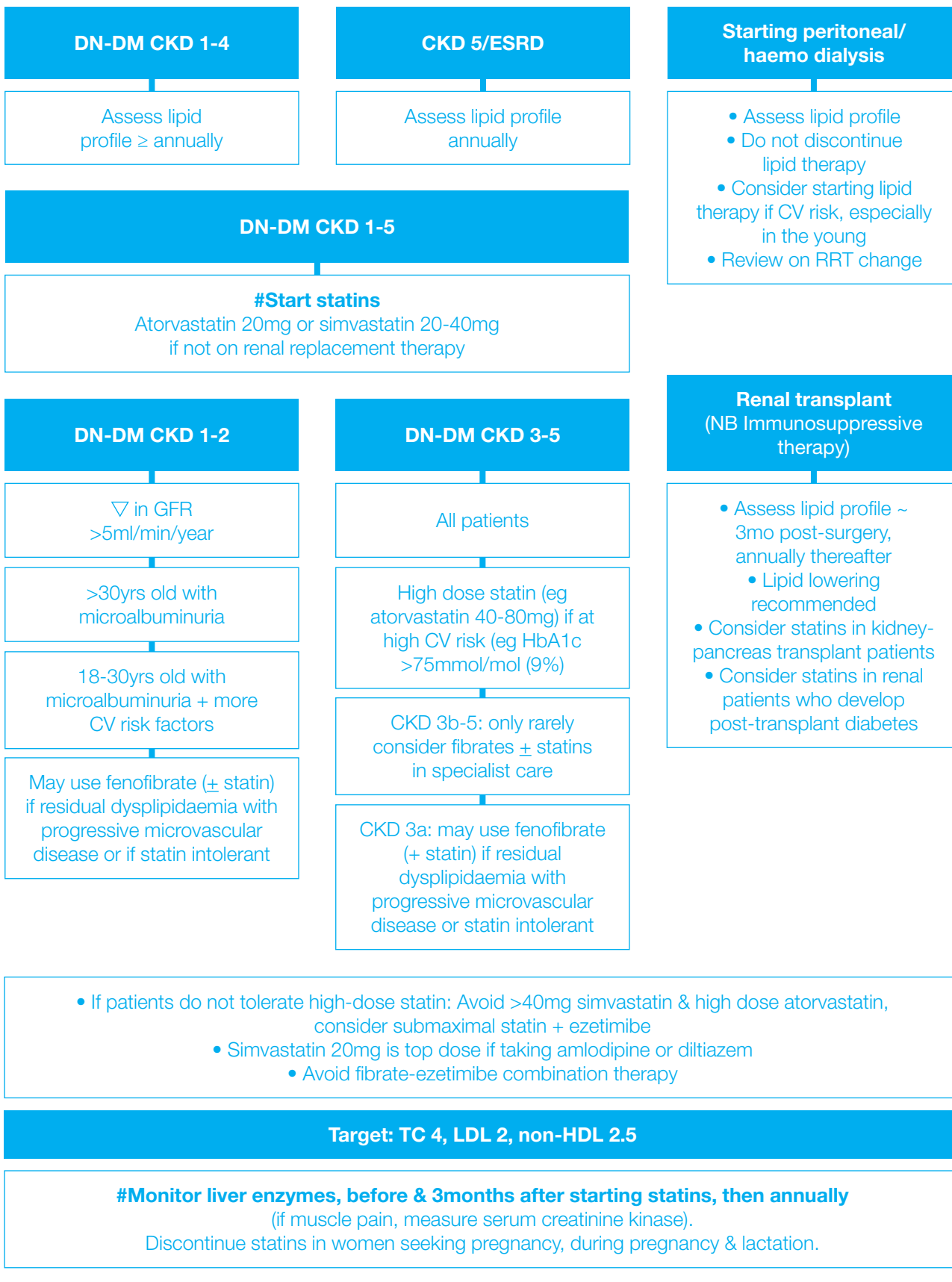
- 25 When prescribed in combination with amlodipine or diltiazem, the maximum dose of simvastatin should not exceed 20mg (1B).
- 26 We suggest that there is no role for fibrates in advanced CKD (3b-5) with DM either alone or in combination with statins outside specialist care (1A).
- 27 Fenofibrate therapy alone, or alongside statins, should only be used in DN-DM CKD 3a or earlier stages, and primarily to reduce risks of progressive microvascular events in those with statin intolerance or residual dyslipidaemia despite statins (2C).
- 28 We do not recommend fibrate-ezetimibe combination therapy in DN-DM CKD without specialist lipid clinic advice (2D).

Furthermore, there is no basis to initiate combination nicotinate laropirant in DM at any stages of CKD (1A). Rosuvastatin 40mg is best avoided in the management of diabetes with proteinuria and CKD (1B). Finally, there is currently no evidence to support the use of evolocumab or alirocumab in the management of diabetes with DN-CKD.

For the full guidelines, go to <https://abcd/care/abcd-ra-guidelines>

Type 1 Diabetes Mellitus*

Measure TC, LDL, HDL, TG according to local practice

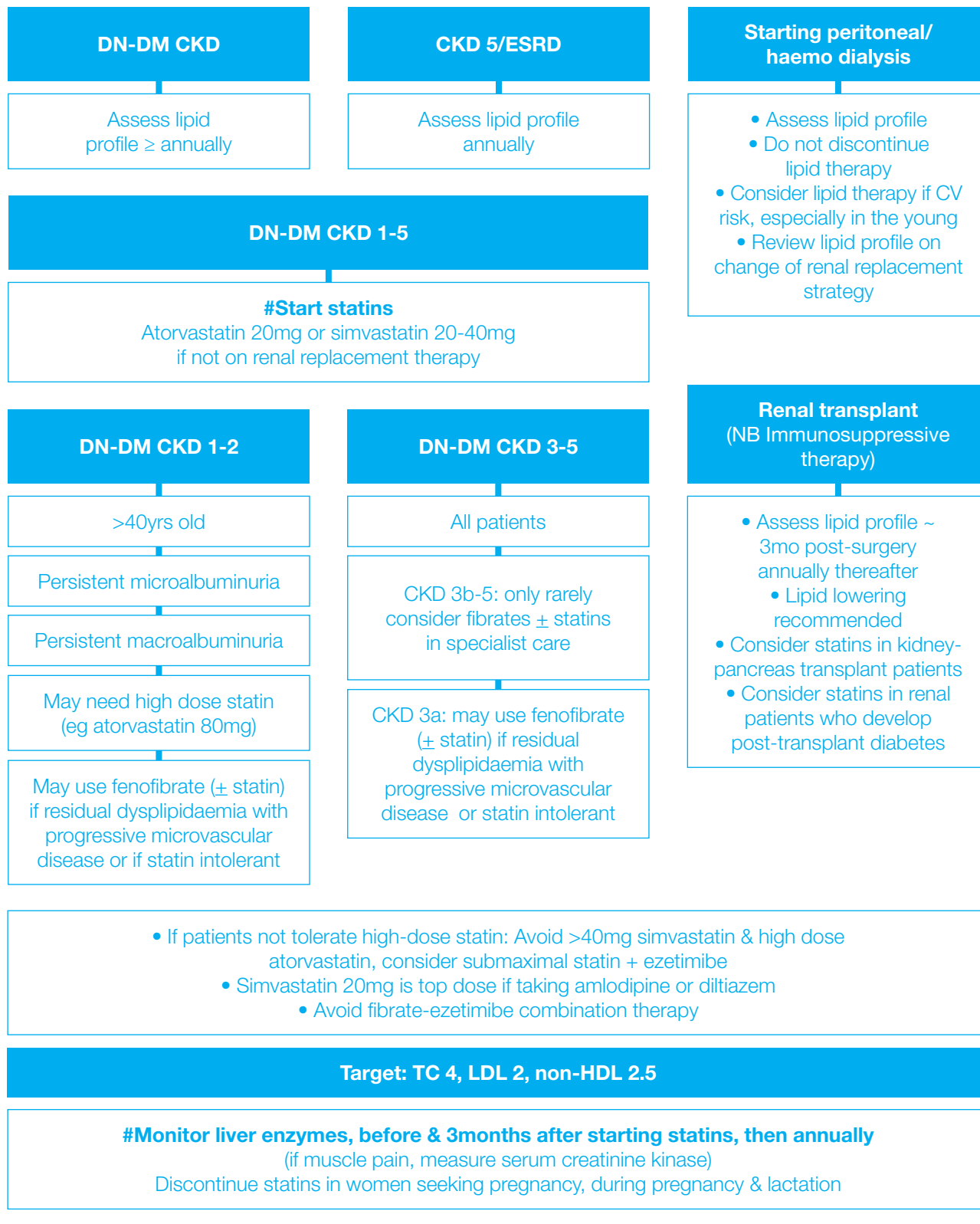


SUPPLEMENT

KIDNEY DISEASE

Type 2 Diabetes Mellitus*

Measure TC, LDL, HDL, TG according to local practice



*Superscript number refers to that guideline

REFERENCE

For a summary, see Mark PB, Winocour P and Day C (2017). Management of lipids in adults with diabetes mellitus and

nephropathy and/or chronic kidney disease: summary of joint guidance from the Association of British Clinical Diabetologists (ABCD) and the Renal

Association (RA). *British Journal of Diabetes* 17, 64–72. For the full guidelines, go to <https://abcd.care/abcd-ra-lipid-guidelines>